National Environmental Laboratory **Accreditation** Conference

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FIELD ACTIVITIES

PROPOSED CHANGES

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7.0 FIELD ACTIVITIES

INTRODUCTION

This chapter includes standards for sampling and field measurement activities. Many of the general requirements are covered in other chapters; this chapter covers field operations which are not explicitly covered in other NELAC standards. Because of the use of temporary facilities, field equipment, and the effect of environmental conditions, field standards are necessary to ensure the adequacy of the resulting data.

7.1 GENERAL FIELD SAMPLING STANDARD

7.1.1 Scope

a) This standard closely follows the sampling elements of ISO/IEC 17025, "General Requirements for the competence of testing and calibration laboratories;" 1999. References to ISO 17025 are given in brackets.

b) This standard specifies the general requirements for the competence to carry out sampling [1.1]. When a laboratory does not undertake sampling, these requirements do not apply [1.2].

7.1.2 Technical records

Laboratory records shall include the identity of personnel responsible for sampling [4.12.2.1]. Observations, data and calculations shall be recorded at the time they are made and shall be identifiable to the specific task [4.12.2.2].

7.1.3 Personnel

a) The laboratory shall use personnel who are employed by, or under contract to, the laboratory. Where contracted and additional technical and key support personnel are used, the laboratory shall ensure that such personnel are supervised and competent and that they work in accordance with the laboratory's quality system [5.2.3].

b) The management of the laboratory shall formulate the goals with respect to the education, training and skills of the laboratory personnel. The laboratory shall have a policy and procedures for identifying training needs and providing training of personnel. The training program shall be relevant to the present and anticipated sampling tasks of the laboratory [5.2.2].

c) The management shall authorize and ensure the competence of specific personnel to perform particular types of sampling. The laboratory shall maintain records of the relevant authorization(s), competence, educational and professional qualifications, training, skills and experience of all technical personnel, including contracted personnel. This information shall be readily available and shall include the date on which authorization and/or competence is confirmed [5.2.5].

7.1.4 Accommodation and environmental conditions

The sampling team shall ensure that the field environmental conditions do not invalidate the results or adversely affect the required quality of any measurement. The technical requirements for accommodation and field environmental conditions that can affect the result of tests shall be documented [5.3.1].

7.1.5 Sampling Methods

The laboratory shall use appropriate methods and procedures for all tests within its scope, including sampling, handling, transport, chain-of-custody, storage, and preparation of samples to be tested [5.4.1].

a) The laboratory shall use sampling methods which meet the regulatory needs of the client and which are appropriate for the tests it undertakes. Sampling methods published in international, regional or national standards shall preferably be used [5.4.2].

b) The laboratory shall validate non-standard sampling methods, laboratory-designed/developed methods, standard methods used outside their intended scope, and amplifications and modifications of standard methods to confirm that the methods are fit for the intended use [5.4.5.2].

7.1.6 Equipment

a) The laboratory shall be furnished with all items of sampling equipment required for the correct performance of the tests. In those cases where the laboratory needs to use equipment outside its permanent control, it shall ensure that the requirements of this standard are met [5.5.1].

b) Equipment and its software used for sampling shall be capable of achieving the accuracy required and shall comply with specifications relevant to the tests concerned. When received, sampling equipment shall be checked to establish that it meets the laboratory's specification requirements, complies with the relevant standard specifications, and shall be checked and/or calibrated before use [5.5.2].

7.1.7 Sampling Procedures [5.7, 4.7]

a) The laboratory shall have a sampling plan and procedures for sampling when it carries out sampling for subsequent testing. The sampling plan as well as the sampling procedure shall be available at the location where sampling is undertaken. Sampling plans shall be based on communication with the client and, whenever reasonable, be based on appropriate statistical methods. The sampling process shall address the factors to be controlled to ensure the validity of the tests.

NOTE 1 Sampling is a defined procedure whereby a part of a matrix is taken to provide for testing a representative sample of the whole. Sampling can also be required by the appropriate specification for which the matrix is to be tested. In certain cases (e.g. forensic analysis), the sample may not be representative but is determined by availability or the purpose of the sampling.

NOTE 2 Sampling procedures should describe the selection, sampling plan, withdrawal and preparation of a sample or samples from a matrix to yield the desired information.

b) Where the client requires deviations, additions or exclusions from the documented sampling procedure, these shall be recorded in detail with the appropriate sampling data and included in all documents containing test and/or calibration results, and shall be communicated to the appropriate personnel.

c) The laboratory shall have procedures for recording relevant data and operations relating to sampling that forms part of the testing or calibration that is undertaken. These records shall include the sampling procedure used, the identification of the sampler, environmental conditions

(if relevant) and the diagrams or other equivalent means to identify the sampling location as necessary and, if appropriate, the statistics the sampling procedure are based upon.

NOTE A sampling procedure and information on storage and transport of samples, including information on sampling factors affecting the test result should be provided to those responsible for taking and transporting the samples [5.8].

7.1.8 Test reports [5.10.3.2]

In addition to the requirements listed in Quality Systems Section 5.13, test reports containing the results of sampling shall include the following, where necessary for the interpretation of test results:

a) date of sampling;

b) unambiguous identification of the matrix sampled;

c) location of sampling, including any diagrams, sketches, or photographs;

d) reference to the sampling plan and procedures used;

e) details of any environmental conditions during sampling that may affect the interpretation of the test results;

f) any standard or other specification for the sampling method or procedure, and deviations, additions to or exclusions from the specification concerned.

Appendix A - REFERENCES

ISO/IEC 17025:1999(E), “General Requirements for the Competence of Testing and Calibration Laboratories,” 1999.